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Lebanon Water and Wastewater Sector Support

QUARTERLY REPORT: JANUARY 2014 — MARCH 2014

May, 2014

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ACRONYMS

ACWUA	Arab Countries Water Utilities Association	HDSL	High-bit-rate Digital Subscriber Line
ADSL	Asymmetrical digital subscriber line	HPIP	High Priority Intervention Program
AFD	French Development Agency	HR	Human Resources
AWP	Annual Work Plan	H&S	Health and Safety
APP	Annual Work Plan	IAR	Initial Assessment Report
ATP	Annual Training Plan	IEE	Initial Environmental Evaluation
BMLWE	Beirut-Mount Lebanon Water Establishment	IFI	International Financial Institution
BOQ	Bill of Quantities	IRG	International Resource Group
BWE	Bekaa Water Establishment	IRM	Information Resources Management
CAS	Central Administration of Statistics	IT	Information Technology
CCN	Cooperating Country National	IWRM	Integrated Water Resource Management
CCTV	Closed Cable Television	KPI	Key Performance Indicator
CDG	Chairman and Director General	LWWSS	Lebanon Water and Wastewater Sector Support
CDM	Camp, Dresser and McKee Engineering	MIS	Management Information System
CDR	Council for Development and Reconstruction	MMS	Maintenance Management System
CRM	Customer Relations Management	MOEW	Ministry of Energy and Water
CIP	Capital Improvement Plan	MOF	Ministry of Finance
CO	USAID Contract Office	MOTGE	Mise en place des Outils Techniques de Gestion de l'Eau
COA	Chart of Accounts	NLWE	North Lebanon Water Establishment
CQCP	Construction Quality Control Plan	NRW	Non Revenue Water
CSR	Customer Service Representative	NWSS	National Water Sector Strategy
COP	Chief of Party	O&M	Operations and Maintenance
COR	Contract Officer Representative	PMP	Performance Monitoring Plan
DG	Director General	PSP	Private Sector Participation
DAI	Development Alternatives Inc.	PPM	Parts per million
DCOP	Deputy Chief of Party	PPP	Public Private Partnership
DEP	Design Engineering Partners	SCADA	System Control and Data Acquisition
EIB	European Investment Bank	SLWE	South Lebanon Water Establishment
EU	European Union	SMP	Subcontractor Management Plan
EA	Environmental Assessment	SOW	Scope of Work
EDL	Electricite du Liban (National Electricity Provider)	STTA	Short-Term Technical Assistance
EMMP	Environmental Monitoring and Mitigation Plan	TBC	To be confirmed
ERP	Enterprise Resource Planning	TOR	Terms of Reference
EOI	Expression of Interest	USAID	United States Agency for International Development
FAS	Financial & Accounting System	USG	United States Government
GA	Geographical Area	WE	Water Establishment
GIS	Geographical Information System	WET	World Engineering and Technology
GIZ	Gezellshaft fur Internationale Zusammenarbeit	WPS	Water Pumping Stations
GNSS	Global Navigational Satellite System	WWTP	Wastewater Treatment Plant
GOL	Government of Lebanon		
GTZ	German Technical Assistance		

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A. INTRODUCTION

The Lebanon Water and Wastewater Sector Support (LWWSS) Program is a \$34 million, 67-month (October 2009 - April 2015) program funded by USAID and implemented by Development Alternatives, Inc. (DAI). LWWSS provides technical assistance and related services to impact USAID/Lebanon's Assistance Objective (AO) 4, "Improved water services for all in Lebanon", and the corresponding Intermediate Results (IRs), "More efficient management of water resources", "Improved water infrastructure", and "Enhanced water governance".

LWWSS works in cooperation with the Ministry of Energy and Water (MOEW) to assist Lebanon's four Water Establishments (WEs) in strengthening their capacity to deliver high-quality and sustainable services. Ultimately, the LWWSS program aims to help the WEs advance towards financial and operational sustainability and overcome the many challenges they face, including staff shortages and an aging workforce, poor customer relations, low tariffs that fail to recover operating costs, lack of metering, excessive non-revenue water, and underinvestment in the water and wastewater infrastructure.

The areas of focus that LWWSS targets in working with the WEs include:

- Building management capacity within the WEs;
- Increasing financial management capacity and financial system integration;
- Procuring equipment to complement technical assistance and capacity building;
- Business planning to increase capital planning and benchmarking capacity;
- Funding urgent infrastructure works to enhance delivery or access and coverage; and
- Developing a corporate culture, customer service orientation, and public outreach programs.

Based on the initial LWWSS program objectives of building on previous USAID and other donor program progress, and as a result of lessons learned during the past four years of the program, LWWSS has focused on implementing its Year-Five Work Plan within specific areas of Water Establishment (WE) operations. The LWWSS program has, therefore, tailored the individual WE work plans to apply the information gathered on each WE and to leverage the successes accomplished to date.

This Quarterly Report covers the period from January 2014 – March 2014 and provides quarterly highlights, component updates that provide technical perspective, and detailed progress of project activities broken down by each WE and then further by each component, as per the Year Five Work Plan. Each component consists of several activities, and progress of each is depicted in the accompanying Gantt charts and detailed in the narrative.

B. QUARTERLY ACTIVITY HIGHLIGHTS

USAID Increases Financial and Commercial Viability of the South Lebanon Water Establishment by Implementing the Enterprise Resource Planning Solution



Above and below: In-class and practical training sessions



As part of USAID's efforts in building the capacity of the South Lebanon Water Establishment (SLWE), the Lebanon Water and Wastewater Sector Support Program (LWWSS) arranged for a kick-off meeting that would mark the beginning of the implementation of the Enterprise Resource Planning (ERP) business solution software platform.

The meeting took place on Wednesday, January 29, 2014, in the presence of 15 pertinent staff members from the SLWE. During the meeting, an overview of the scope, objectives, approach and methodology were presented. A series of similar meetings will follow where the feedback and comments of staff will be integrated into the final EPR system, which will be tailored to the specific needs of the SLWE.

The ERP system, Microsoft's Dynamic NAV, will provide the SLWE with an integrated, flexible and modern platform for computerized operations across all its departments, and will enable it to achieve fast progress in terms of increased administrative efficiency, accountability, quality control and informed decision making. The SLWE will have a centralized management information system that connects to all branches and handles all financial, administrative and customer-related processes (procurement, budget, accounting, inventory, payroll, HR, documentation and registration, billing and collection, CRM), using a robust IT infrastructure sustained by a well-trained team of employees.

Once implemented, the ERP system will replace the current system which is outdated and especially vulnerable to data inaccuracy errors, time delay in data production, and inconsistency in financial and accounting standards application.

USAID plants trees in Bechmezzine for Bioremediation reasons



In an effort to increase supply hours to areas facing supply shortage, USAID's Lebanon Water and Wastewater Sector Support (LWWSS) Program provided power generation equipment for key pump stations in North Lebanon including the Bechmezzine area. This activity was deemed one of the most crucial capital investments identified for the North Lebanon Water Establishment (NLWE), as it would enable the pumping and distribution of water to thousands of users in rural and deprived areas of North Lebanon.



Due to the proximity of residential buildings, and the extremely limited area in which to install the power generator, it was placed on a concrete pad adjacent to the pump station with its exhaust only about 7 meters away from the nearest inhabited house. This would normally be in violation of environmental principles which would require a minimum of 15 meters mandatory clearance between exhaust emissions and an inhabited area.

In order to mitigate the potential for negative impact of the diesel generator on the environment, improve air quality, and reduce pollution, the LWWSS team together with the municipality of Bechmezzine planted seven Cypress trees in February 2014.



The Bechmezzine municipality was very pleased with the solution; as a result, they contributed two Caroline flowers and manpower to plant the trees. In addition, they promised to care for the trees in the future and to plant grass and flowers around the station for ornamental purposes.

Residents of the community expressed their satisfaction with the arrangements. Some were learning for the first time that trees could serve as natural filters cleaning the air from the toxic contaminants caused by the diesel engine emissions.

USAID builds the capacity of the Bekaa Water Establishment by supporting the development of a Water Supply and Waste Water Master Plan



Further to the adoption of the government's National Water Sector Strategy and the development of a five-year business plan for the Bekaa Water Establishment (BWE), USAID's Lebanon Water and Wastewater Sector Support Program (LWWSS) identified an important potential to assist the BWE in developing an Engineering Water Supply and Sewerage Master Plan that will guide the WE's development over the next twenty five years.



On 26 March 2014, a one day workshop took place at the BWE's Customer Service Center to discuss the Master Plan in the presence of the BWE Director General, USAID, LWWSS team, the Advisor to the Minister of Energy and Water, a representative from the Council for Development and Reconstruction, and the subcontractor KREDO, appointed to develop the Master Plan. KREDO delivered a presentation of their findings to date, followed by an in-depth discussion with the attendees on the progress and setting guidelines for moving forward. Other follow up meetings with KREDO will take place to ensure a smooth workflow and adherence to schedule.



The development of a Master Plan is a critical activity and a requirement of the National Water Sector Strategy (NWSS). It is in line with the national effort to empower WEs and assist them by building their capacity in capital investment planning, thus increasing their effectiveness in fulfilling their roles and duties towards Lebanese citizens.

Project Progress by Water Establishment and Component

Project activities are broken down by each WE and then further by each LWWSS component, in conformance with the Year Five Work Plan. Each component consists of several activities, and progress of each is depicted in the Gantt charts and detailed in the narrative.

1. Bekaa Water Establishment

Component 2: Capacity Building for Managerial, Technical and Operational Efficiency

Work Plan Activities

Item	Activity Description	Program Resource	Outcome by End of Year Five	Target Date
2.2	Building the WEs' Water Quality Management Capacity: Water Quality Testing Plan	AUB	Activity completed	
2.3	Capacity Building in Operation and Maintenance of Pump Stations	KREDO	Activity completed	
2.4	Public administration and Process Management Training		Activity to be completed	June 2014
2.4.2	Public administration and process management training aiming at increasing staff familiarity with WE systems and processes	- LWWSS (MK), ABA (MC)	Activity to be completed	June 2014
2.5	Training on Network Maintenance and Repair			
2.5.1	Basic training on network maintenance, monitoring and repair, for existing and newly recruited network team personnel	- LWWSS (MK) - KREDO	Activity completed	December 2013

Personnel: BG-Bassem Ghayda; MK-May Koleilat; GT-Gulnard Ters; MC-Mike Chalah

Below we provide additional context for selected activities presented in the table above.

Activity 2.4 - Public Administration and Process Management Training

The training will be conducted by the LWWSS Financial and Training Specialists during the third quarter of Year Five. By then, the staff will be more available for training as BWE would have completed its closing of fiscal year exercise, which takes place during February and usually extends into March.

In January, LWWSS team sent the DG of BWE a memo explaining the content of the training and proposing a list of participants. In February, LWWSS team received the official approval of the DG on the training along with the list of participants. LWWSS team prepared the case studies, power point presentations and the templates necessary for the needs analysis and the prerequisite knowledge assessment.

During March the content of the 7-day training, set for April, was finalized for the different modules. Fourteen of the newly recruited employees were nominated to attend the training and were requested to complete a training needs assessment.

BWE will be sending additional names of staff who are currently working on the ERP software to participate in the training.

Activity 2.5 - Basic training on network maintenance, monitoring and repair, for existing and newly recruited network team personnel

Activity completed in the first quarter of Year Five.

Component 3: Increase Financial and Commercial Viability of Water Establishments

Work Plan Activities

Item	Activity Description	Program Resource	Outcome by End of Year Five	Target Date
3.1	Upgrade Finance and Accounting Standards and Methods			
3.1.5	Develop procedures and a standard manual for yearly budgeting within the WE, and conduct applied training to key departments.	ABA (AA, MC)	Procedures defined, manual produced, training conducted.	September 2014
3.1.6	Develop procedures and a standard manual for internal audit within the WE, and conduct applied training to key departments.	ABA (AA, MC)	Procedures defined, manual produced, training conducted.	February 2015
3.2	Integrate the WEs Financial, Accounting, Customer Service and Business Process Systems: The Enterprise Resource Planning (ERP) Platform	ABA (AA, MC)	Systems integrated ERP modules fully functional	December 2014
3.2.4	Conduct training, assist in transition phase and provide one year on-site support	ABA (MC) EDM	Activity completed	December 2014

Personnel: AA-Ahmad Azzam; MC-Mike Chalah

Below we provide additional context for selected activities presented in the table above.

Activity 3.1 – Upgrade Finance and Accounting Standards and Methods

3.1.5 - Develop procedures and a standard manual for yearly budgeting within the WE, and conduct applied training to key departments

This activity aims to enhance and standardize the budget preparation procedure, by introducing a new culture to the BWE that will improve the use of budgeting as a planning and control tool, and will provide BWE's key staff with a step by step guide on how to plan, prepare and implement the budget to improve planning and operations.

In January 2014, mostly preparatory work took place such as field visits and meetings with key staff for the purpose of investigating and defining key best practices in budgeting. Actual implementation however, was not expected to start until the third quarter of Year Five.

During February, the LWWSS program coordinated with the EU's SISSAF project which included a comprehensive budget activity for the four water establishments. In order not to duplicate any work, a meeting took place on 28 February to discuss the tasks in detail. It was agreed that the LWWSS team will send SISSAF an outline of the budget requirements of the WEs, based on which tasks will be distributed between the two projects. EU's SISSAF project, however, made it explicit that their involvement will be mostly at the strategy/policy level, so LWWSS decided to continue with their budgeting activities as planned.

During March, preparations were under way for a training activity set to take place in May, targeting the four WEs. A draft of the budget manual and the content of the presentations were finalized. The purpose of the workshop is to familiarize the staff of the WEs with the content of the budget manual, obtain their feedback and integrate it into the final version.

3.1.6 - Develop procedures and a standard manual for internal audit

LWWSS will assist the BWE in developing a thorough Internal Audit Manual that will cover all aspects of audit controls dictated by the by-laws and the legislation applicable to the WEs, in order to improve detective, corrective and preventative controls within the WE. The effort would also allow the WE to conduct an operational review of performance on a yearly basis, thereby providing WE management with powerful tools to monitor the WE's performance and compliance. As part of this activity, the LWWSS program and BWE will work to assign staff to lead the process of internal auditing, conduct comprehensive training on the manual's contents and processes.

Work on the Internal Audit manual commenced during the second quarter of Year Five. Memos along with the draft manual and forms were sent to the DGs of the four WEs requesting staff attendance for an upcoming Audit training. After receiving the approval of the four DGs, training was scheduled for 8 May 2014. One of the key outputs of the training is collecting user feedback. The draft version will then be revised to incorporate staff comments. A final version will be disseminated to participants from the four WEs and the MOEW.

Activity 3.2 - Integrating the WE's Financial, Accounting, Customer Service and Business Process Systems

Enterprise Resource Planning (ERP) System Progress

During January, LWWSS team and EDM subcontractor performed several follow up visits to the BWE and determined that all the ERP modules (procurement, budget, inventory, payroll, human resource, accounting and documentation) are functional except for the billing and collection and CRM modules which were pending the receipt of the final list of tariffs from BWE, along with the subscribers' file. However key users were still facing some challenges with some of the other modules as well which prevented them from fully adopting the system. On January 30, 2014, LWWSS management met with the BWE DG together with the USAID COR in order to address and mitigate these challenges and issues. The attendees mainly agreed that: LWWSS financial consultant, Mike Chalah, should increase the follow up visits to three times per week in order to meet and better assist the DG and his staff during the transition phase from the current system to the ERP system. He will brief the DG on encountered challenges and the progress achieved so far. He will also send him reports generated by the system and update him on the status of implementation of the different modules. In addition, he will meet with key users in the DG's presence to ensure operability of the modules as well as staff satisfaction.

On February 5 and 11, meetings were held with Mr. Moussallem on the ERP system. In-depth discussions took place and a presentation was delivered by LWWSS team and EDM subcontractor on two modules, Budgeting and Procurement. Also in February, the final list of tariffs was received.

During March, LWWSS team and EDM subcontractor continued with the follow up visits to the BWE. On March 31, LWWSS team met with the DG in the presence of EDM technical support and the key users of the ERP software. All key users were directed by the DG to use the functional modules and contact EDM in case they faced technical problems.

The master subscribers' file still was not received in March but rather delayed until April.

The below table summarizes the status of the different ERP modules as of the end of March 2014:

Module Description	Functionality Rate	Reporting Status	Comments
Procurement	100%	Reports generated	Presented to the DG
Budget	100%	Reports generated	Presented to the DG
Inventory	100%	Reports generated	To be presented to the DG next month
Payroll	100%	Reports generated except for one	One report remains to be finalized, generated and will be presented to the DG next month
Human Resources	100%	Reports generated from the system	presented to the DG
Accounting	100%	Work in progress	Presented to the DG but the report will be generated end of April
Documentation and Registration	100%	Reports generated from the system	To be presented to the DG next month
Billing and Collection	90%	Work in progress	Subscriber file is still missing.
CRM	90%	Work in progress	Linked to the Master file of subscribers which is still missing. Also related to the billing & collection Module.

Component 4: Capital Investment Planning and Program/Project Management

Work Plan Activity

Item	Activity Description	Program Resource	Outcome by End of Year Five	Target Date
4.4	Master planning			
4.4.1	Water Supply and Sewerage Master Plan	LWWSS, KREDO, ValuAdd	Activity to be completed	August 2014

Below we provide additional context for selected activities presented in the table above.

Activity 4.4 - Developing Water Supply and Sewerage Master plan

After several meetings to review and discuss the draft Wastewater System Assessment Report, KREDO submitted the report on January 24, 2014. This report was thoroughly reviewed by LWWSS' engineering team and ValuAdd consultant, Mr. Philip Giantris. A meeting was held with KREDO on January 31, 2014 to discuss the said report.

Another meeting was held on February 4 between the LWWSS team and BWE's DG Mr. Maroun Moussallem and his technical staff to present the findings and discuss the issues that should be taken into consideration by KREDO in the submission of the final Water Supply System Assessment Report. On February 5, a meeting was held with Mr. Philip Giantris and KREDO during which all the comments raised by the LWWSS team were thoroughly discussed. On February 20, KREDO submitted a revision of the Water Supply System Assessment Report incorporating all the comments and feedback collected during the various discussions and meetings. The Report was thoroughly reviewed and commented on by the LWWSS team and Mr. Giantris. The revision 1 was finally accepted on March 24, 2014.

On February 20, KREDO submitted the updated GIS Software and Current Data Base. On March 12, 2014 Kredo gave a presentation on the GIS software in the Customer Service Center of BWE in Zahleh. At the end of the presentation it was determined that the GIS application was not populated by all needed information. Kredo requested one month to complete this task. The updated GIS software and the Wastewater Capital Investment Plan & Priority action Plan are expected to be submitted to LWWSS by late April 2014.

On March 26, 2014, a one day workshop took place at the BWE's Customer Service Center in Zahleh to discuss the Master Plan in the presence of the DG, his technical staff, CDR, USAID, LWWSS team, the Advisor of the Minister of Energy and Water, and the consultant KREDO. KREDO delivered a presentation of their findings to date, followed by an in-depth discussion on the progress. Guide lines for moving forward were set.

Component 5: Procurement of Technical Equipment to Strengthen WEs

Work Plan Activities

Item	Activity Description	Program Resource	Outcome by End of Year Five	Target Date
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5.4	Upgrading the Water Analysis Laboratories			
5.4.1	Upgrade the water testing laboratories with infrastructure and equipment	MK	Activity completed	October 2013
5.4.2	Establish service agreements and provide user training	MK	Service agreements and training provided	April 2014

Personnel: MK-May Koleilat

Activity 5.4.2 – Establish service agreements and provide user training

Activity completed in October of last year. However, some ad hoc follow up by the LWWSS Training Specialist is still ongoing to ensure sustainability of the intervention. A one day follow up session at AUB is scheduled for April 11 for the new Head of BWE Laboratories, Mr. Sleiman El Jammal, as well as a site visit to SLWE Laboratory.

Component 6: Small to Medium Scale Rehabilitation/Upgrade/Extension Water and Wastewater Works within WEs

Work Plan Activities

Item	Activity Description	Program Resource	Outcome by End of Year Five	Target Date
6.1	Decreasing Water Losses and Upgrading Existing Networks			
6.1.1	Design network upgrades in Zahle: rehabilitating the water supply network of the region of Mar Elias	LWWSS (WA) Local Engineering Firm (W.E.T)	Design completed;	January 2013
6.1.2	Implement network upgrades in Zahle: rehabilitating the water supply network of the region of Mar Elias	Local Engineering Firm (W.E.T) Local subcontractor (Nicolas Srouji)	Activity completed	February 2014
6.1.3	Design network upgrades in Zahle: rehabilitating five branch networks in Haouche el Oumara, Maalaka, Rassieh, Karak-Forzol and Midan	LWWSS (WA) Local Engineering Firm (W.E.T)	Activity completed	February 2014
6.1.4	Implement network upgrades in Zahle: rehabilitating five branch networks in Haouche el Oumara, Maalaka, Rassieh, Karak-Forzol and Midan	Local Engineering Firm (W.E.T) Local subcontractor (Nicolas Srouji)	Activity completed	February 2014

Personnel: WA- Walid AbouZeid

Below we provide additional context for selected activities presented in the table above.

Activity 6.1 - Decreasing Water Losses and Upgrading Existing Networks

In January, work was progressing right on schedule. All the water lines and house connections included in the Tender Document were implemented according to the drawings, i.e. Midan 1 & 2, Rassieh 1, 2, 3

& 4, Mar Elias, Maallaqa 1 & 2, Haouch el Oumara 1, 2 & 3, Karak el Fourzol 1, 2, 3 & 4. Remaining only were house connections in different sectors of Dhour Zahleh

In February, all water lines and house connections included in the Tender Document were implemented according to the drawings. Around end of February 2014, however, USAID reported to LWWSS Chief of Party an alleged malfunctioning detected in the Mar Elias water line, a major distribution trunk main of 200 mm diameter and 2.1 km length. The pipeline was failing to transmit water properly to the destination end point.

With proper follow up from LWWSS, the problem was successfully resolved as detailed in the challenges section below.

In March, LWWSS fully and successfully completed the construction/rehabilitation of 15 Km out of 350 km of the Water Supply Network in 7 areas of the city of Zahleh for the Bekaa Water Establishment. The "taking over" process, which entails a thorough investigation to ensure that all the works included in the contract have been satisfactorily implemented according to contract specifications and drawings started mid-March and is being conducted by BWE along with the LWWSS and the consultant WET.

Component 7: Corporate Culture, Customer Service Orientation, and Public Outreach

There are no component seven activities with BWE in the LWWSS program Year Five work plan.

2. Beirut-Mount Lebanon Water Establishment

Component 2: Capacity Building for Managerial, Technical and Operational Efficiency

There are no component two activities with NLWE in the Year Five work plan.

Component 3: Increase Financial and Commercial Viability of Water Establishments

Work Plan Activities

Item	Activity Description	Program Resource	Outcome by End of Year Five	Target Date
3.1	Upgrade Finance and Accounting Standards and Methods			
3.1.5	Implement the yearly budgeting within the WE.	ABA (AA, MC)	Activity to be completed	September 2014
3.1.6	Develop procedures and a standard manual for internal audit within the WE, and conduct applied training to key departments.	ABA (MC, AA)	Procedures defined, manual produced, training conducted.	February 2015
3.1.7	Develop module and training on the cost Tariff Analysis Module	ABA (AA, MC)	Activity completed	October 2013
3.2	Integrate the WEs Financial, Accounting, Customer Service and			

	Business Process Systems				
3.2.4	Conduct training, assist in transition phase and provide one/two year on-site support	ABA EDM		Activity completed	September 2013

Personnel: AA- Ahmad Azzam; MC-Mike Chalah. Resource: ABA-Allied Business Advisors

Below we provide additional context for selected activities presented in the table above.

Activity 3.1 – Upgrade Finance and Accounting Standards and Methods

3.1.5 - Develop procedures and a standard manual for yearly budgeting within the WE, and conduct applied training to key departments

This activity aims to enhance and standardize the budget preparation procedure, by introducing a new culture to the WE which will improve the use of budgeting as a planning and control tool, and will provide BMLWE's key staff with a step by step guide on how to plan, prepare and implement the budget to improve planning and operations.

In January 2014, mostly preparatory work took place such as field visits and meetings with key staff for the purpose of investigating and defining key best practices in budgeting. Actual implementation however, is not expected to start until the third Quarter of Year Five.

Throughout February, The LWWSS program coordinated with the EU's SISSAF project which included a comprehensive budget activity for the four water establishments. In order not to duplicate any work, a meeting took place on 28 February to discuss the tasks in detail. It was agreed that the LWWSS team will send SISSAF an outline of the budget requirements of the WEs, based on which tasks will be distributed between the two projects. EU's SISSAF project, however, made it explicit that their involvement will be mostly at the strategy/policy level, so LWWSS decided to continue with their budgeting activities as planned.

During March, preparations were under way for a training activity set to take place in May, targeting the four WEs. A draft of the budget manual and the content of the presentations were finalized. The purpose of the workshop is to familiarize the staff of the WEs with the content of the budget manual; obtain their feedback and integrate it into the final version.

3.1.6 - Develop procedures and a standard manual for internal audit

LWWSS will assist the BMLWE in developing a thorough Internal Audit Manual that will cover all aspects of audit controls dictated by the by-laws and the legislation applicable to the WEs, in order to improve detective, corrective and preventative controls. The effort would also allow the WE to conduct an operational review of performance on a yearly basis, thereby providing BMLWE management with powerful tools to monitor performance and compliance. As part of this activity, the LWWSS program and BMLWE will work to assign staff to lead the process of internal auditing, conduct comprehensive training on the manual's contents and processes.

Work on the Internal Audit manual commenced during the second quarter of Year Five. Memos along with the draft manual and forms were sent to the DGs of the four WEs requesting staff attendance for an upcoming Audit training. After receiving the approval of the four DGs, a training was scheduled for 8 May 2014. One of the key outputs of the training is collecting user feedback. The draft version will then

be revised to incorporate staff comments. A final version will be disseminated to participants from the four WEs and the MOEW.

3.1.7 - Develop module, procedures and provide training on the Cost Tariff Analysis Module for Strategic Planning and Budgeting

The LWWSS program will support the inputting of previous years' data into the module to test it, if requested by BMLWE management. They will also support the live implementation of the module during Year Five as needed. The Cost Tariff Analysis module could be connected to the ERP at a later stage after the BMLWE staff have familiarized themselves with its applications. No activities have been formally planned though in Year Five, as this is dependent on the willingness and commitment of the BMLWE

Activity 3.2 - Integrating the WE's Financial, Accounting, Customer Service and Business Process Systems: Enterprise Resource Planning System

Activity completed in September 2013. However, periodic follow-up by LWWSS Financial Specialist to ensure sustainability of the intervention will be conducted throughout Year Five.

Component 4: Capital Investment Planning and Program/Project Management

There are no component four activities with BMLWE in the Year Five work plan.

Component 5: Procurement of Technical Equipment to Strengthen WEs

There are no component five activities with BMLWE in the Year Five work plan.

Component 6: Small to Medium Scale Rehabilitation/Upgrade/Extension Water and Wastewater Works within WEs

There are no component six activities with BMLWE in the Year Five work plan.

Component 7: Corporate Culture, Customer Service Orientation, and Public Outreach

There are no component seven activities with BMLWE in the Year Five work plan.

3. North Lebanon Water Establishment

Component 2: Capacity Building for Managerial, Technical and Operational Efficiency

Work Plan Activities

Item	Activity Description	Program Resource	Outcome by End of Year Five	Target Date
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2.5	Training on Network Maintenance and Repair			
2.5.1	Basic training on network maintenance , monitoring and repair, for existing and newly recruited network team personnel	- LWWSS (MK) - KREDO	Activity to be completed	September 2014

MK-May Koleilat

Activity 2.5 – Training on Network Maintenance and Repair

This training will be conducted by KREDO and will target up to 20 network operators from the NLWE. It will support the LWWSS program's efforts in the North, namely the infrastructure activities which include the water network replacement and extension in the city of Bebnine. It will also introduce best practice methods for detection and repair of water distribution breakdowns, which will directly contribute to a decrease in service disruptions, faults and operational damage of networks, a reduction in the risk of personal injury of operating staff, and financial and resource savings for the NLWE. Training is expected to be carried out in Q4 of Year Five.

Component 3: Increase Financial and Commercial Viability of Water Establishments

Work Plan Activities

Item	Activity Description	Program Resource	Outcome by End of Year Five	Target Date
3.1	Upgrade Finance and Accounting Standards and Methods			
3.1.5	Develop procedures and a standard manual for yearly budgeting	ABA (MC, AA)	Procedures defined, manual produced, training conducted.	February 2015
3.1.6	Develop procedures and a standard manual for internal audit within the WE, and conduct applied training to	ABA (MC, AA)	Procedures defined, manual produced, training conducted.	September 2014

Personnel: AA-Ahmad Azzam; MC-Mike Chalah; MK-May Koleilat.

Resource: ABA-Allied Business Advisors

Below we provide additional context for selected activities presented in the table above.

3.1.5 - Develop procedures and a standard manual for yearly budgeting within the WE, and conduct applied training to key departments

This activity aims to enhance and standardize the budget preparation procedure, by introducing a new culture to the NLWE which will improve the use of budgeting as a planning and control tool, and will provide WE's key staff with a step by step guide on how to plan, prepare and implement the budget to improve planning and operations.

In January 2014, mostly preparatory work took place such as field visits and meetings with key staff for the purpose of investigating and defining key best practices in budgeting. Actual implementation however, was not expected to start until the third quarter of Year Five.

During February, the LWWSS program coordinated with the EU's SISSAF project which included a comprehensive budget activity for the four water establishments. In order not to duplicate any work, a meeting took place on 28 February to discuss the tasks in detail. It was agreed that the LWWSS team will send SISSAF an outline of the budget requirements of the WEs, based on which tasks will be distributed between the two projects. EU's SISSAF project, however, made it explicit that their involvement will be mostly at the strategy/policy level, so LWWSS decided to continue with their budgeting activities as planned.

During March, preparations were under way for a training activity set to take place in May, targeting the four WEs. A draft of the budget manual and the content of the presentations were finalized. The purpose of the workshop is to familiarize the staff of the WEs with the content of the budget manual' obtain their feedback and integrate it into the final version.

3.1.6 - Develop procedures and a standard manual for internal audit within the WE, and conduct applied training to key departments

LWWSS will assist the NLWE in developing a thorough Internal Audit Manual that will cover all aspects of audit controls dictated by the by-laws and the legislation applicable to the WEs, in order to improve detective, corrective and preventative controls. The effort would also allow the WE to conduct an operational review of performance on a yearly basis, thereby providing NLWE management with powerful tools to monitor the WE's performance and compliance. As part of this activity, the LWWSS program and the WE will work to assign staff to lead the process of internal auditing, conduct comprehensive training on the manual's contents and processes.

Work on the Internal Audit manual commenced during the second quarter of Year Five. Memos along with the draft manual and forms were sent to the DGs of the four WEs requesting staff attendance for an upcoming Audit training. After receiving the approval of the four DGs, a training was scheduled for 8 May 2014. One of the key outputs of the training is collecting user feedback. The draft version will then be revised to incorporate staff comments. A final version will be disseminated to participants from the four WEs and the MOEW.

Component 4: Capital Investment Planning and Program/Project Management

There are no component four activities with the NLWE in the Year Five work plan.

Component 5: Procurement of Technical Equipment to Strengthen WEs

Work Plan Activities

Item	Activity Description	Program Resource	Deliverable by End of Year Five	Target Date
5.2	Upgrading Pumping and Energy Efficiency			
5.2.3	Review and design the replacement of nine submersible pumps and associated works	- CDM Smith (BG, GT) - El-Ard	Tests completed and design produced	December 2013
5.2.4	Supply and install the replacement nine submersible pumps and associated works	- CDM (BG, GT) - Local subcontractor (TBD)	Activity to be completed	February 2015

5.2.5	Establish service agreements, and conduct user training programs for the above activities	- CDM (BG, GT, EH) -Local subcontractor (TBD)	Activity to be completed	March 2015
5.3	Increasing Supply Hours to Areas Facing Supply Shortage			
5.3.1	Supply and install up to 9 back-up generators for key NLWE stations	- CDM (BG, GT) - Local subcontractor (TBD)	Activity completed	November 2013
5.3.2	Establish service agreements and conduct user training program for these generators	- CDM (BG, GT), DAI (MK) - Local subcontractor (TBD)	Activity to be commenced	March 2015

Personnel: BG-Bassem Ghayda; GT-Gulnard Ters; MK-May Koleilat

Below we provide additional context for selected activities presented in the table above.

Activity 5.2 - Upgrading Pumping and Energy Efficiency

LWWSS, through subcontractor CDM Smith, produced the design drawings, specifications and bill of quantities for the submersible pumps for the North Lebanon Water Establishment in mid-January 2014. This activity includes the supply of nine submersible and booster pumps, power management panels, protection, power cables, gauges and sensors as well as necessary electrical, mechanical and safety protection installations. The installation will be followed by operation and maintenance training by the equipment supplier related to the equipment procured. This training is specifically aimed at teaching the operators of NLWE to apply the manufacturer's instructions to avoid equipment damage, avoid warranties being voided, and increase the lifespan of the pumps and the sustainability of the procurement activity.

The nine pumps identified are located in the following stations:

- a) Tripoli:
 - Abou Halka Spring (one pump)
 - Manar Tank (one pump)
- b) Qobayyat:
 - Kfartoun (one pump)
- c) Batroun:
 - Kfarhelda – Dar Bella station (one pump)
 - Mar Yaacoub (one pump)
- d) Halba
 - Al Ouyoun (four pumps)

LWWSS prepared the request for proposal and launched the RFP through an open advertisement in local newspapers towards the end of January. The RFP was issued to fourteen interested bidders with the allowable response time ending March 7, 2014. A pre-bid site visit was organized by the LWWSS team on February 19 and 20 for interested bidders to show them the project site to better understand the project and its scope. Clarification requests were received by LWWSS from some bidders to which the replies were sent copying all potential bidders.

LWWSS received five bid submittals by the deadline as set in the RFP. The evaluation committee held its opening session on March 10, 2014 in the presence of the design and supervising subcontractor CDM Smith. Envelopes were opened and labelled and the sealed financial offers were set aside, unopened.

The Lowest Price Technically Acceptable Source Selection procedure was used to evaluate the proposals and select the winning bidder. The committee proceeded with the evaluation of the bidders administrative proposals as per the evaluation criteria stipulated in the RFP. Only three bidders passed the administrative evaluation. On March 11, 2014 the technical bid proposals of the three successful bidders were sent to CDM Smith in the United States for their evaluations. The first draft evaluation was received on March 24. It is expected that CDM Smith will finalize their technical evaluation and submit their report to LWWSS by the first week of April.

Activity 5.3 - Increasing Supply Hours to Areas Facing Supply Shortage

Further to the handover of eight generators to the North Lebanon Water Establishment, the LWWSS program was working on a contract modification to the subcontractor, Edan Group International in January. Due to a bid error resulting in an under-estimate of fuel prices in the original bill of quantities submitted by Edan, the subcontractor was not able to supply fuel to generators in 5 of the 8 locations in the service area.

LWWSS program issued a contract modification to the subcontractor Edan Group International, canceling the provision of fuel to five of the eight generator sites. LWWSS deemed this as an honest and acceptable mistake. As a result, the LWWSS program requested quotations from local fuel suppliers in order to fill the five said generators' fuel tanks and finalize the hand-over. On February 5, LWWSS completed the evaluation of the received quotes and awarded the supply of fuel to Coral Oil Company, having provided the lowest proposal, and requested them to fill the five tanks immediately.

Edan Group were notified accordingly to provide fuel to the remaining three locations. They were advised to start the maintenance service agreement for the installed generators for a period of 2 years or 2000 hours of operations. Accordingly Edan Group started the visits that cover inspection checks and corrective actions to maintain the generators in good working conditions including consumables and first oil and oil filter change at 50 hours of operations. Edan Group will provide each generator (as recommended by manufacturer) with all remaining spare parts and will turn them over to NLWE at the end of the two-year maintenance period.

Within the time frame established in the service agreement, Edan Group will keep record of all maintenance and repair works done for each generator (i.e. entry shall include at a minimum: date, time, location and source feed, equipment manufacturer, model number, serial number, description of failure, descriptions and identifying numbers of all replacement parts, printed name and signature of persons(s) performing maintenance work). A monthly maintenance service report will be provided to the respective NLWE heads of branches with a copy to LWWSS.

In March, Edan Group continued their routine service maintenance visits which started in February on the eight installed generators for the NLWE. Complete documentation of maintenance records performed by Edan Group International will be turned over to NLWE at the end of the second year or after 2000 hours of maintenance services.

Component 6: Small- to Medium-Scale Infrastructure Work

Work Plan Activities

Item	Activity Description	Program Resource	Outcome by End of Year Five	Target Date
6.2	Expanding Service Provision to Non-Served Areas			
6.2.1	Beit Mellat, Akkar, North Lebanon: Design metered house connections to up to 12 villages	LWWSS (WA) KREDO	- Design completed	Jan 2014
6.2.2	Beit Mellat, Akkar, North Lebanon: Implement house connections to up to 12 villages	KREDO Local subcontractor (TBD)	- Procurement completed; Subcontractor appointed	March 2015

Personnel: WA- Walid AbouZeid-Infrastructure PM

Below we provide additional context for selected activities presented in the table above.

Activity 6.2 - Rehabilitation and construction of a water supply network in Beit Mellat region in Akkar for the NLWE.

On January 23, 2014, LWWSS received the final version of the Tender Documents for the Beit Mellat water system upgrade project. The tender process was launched by publishing an advertisement in two newspapers on January 27 and 28 inviting interested contractors to collect the tender Documents from the LWWSS office. The deadline for the submission of proposals was February 27, 2014.

The RFP was issued to eighteen interested bidders with the allowable response time ending on February 27, 2014. A pre-bid site visit was organized on February 6 by LWWSS engineers in the presence of the design and supervising consultant KREDO to acquaint the bidders with the project site so they can better understand the project and its scope.

The Evaluation Committee held the bid opening session on February 28, 2014. Envelopes were opened and labelled and the sealed financial offers were set aside unopened. The committee read out the names of the bidders and noted the participation of the above mentioned eleven bidders.

The Lowest Price Technically Acceptable Source Selection procedure was used to evaluate the proposal and select the winning bidder. The committee proceeded with the evaluation of the bidders' technical and administrative proposals as per the evaluation criteria stipulated in the RFP.

It was concluded that only the five bidders mentioned below have submitted a technically compliant offer:

1. General Company for Quarries & Contracting sarl
2. Nicolas Srouji Establishment for Contracting
3. Al Tajj Establishment
4. Danash Contracting & Trading Company sarl.
5. Nazih Braidy Establishment for Engineering & Contracting

On March 4, 2014, the Evaluation Committee met and opened the Financial Offers of the above mentioned bidders. A Comparison Bid Matrix was completed and signed by all committee members on March 7, 2013. The Evaluation Committee recommended General Company for Quarries & Contracting sarl as the winning bidder for submitting the lowest price, technically acceptable offer amounting to 4,643,139,000 LBP for both mandatory works and the provisional sum. The construction period stipulated in the Subcontract Agreement is 10 months from the Notice-to-proceed date.

The budget allocated for this work is \$3.17 million, equivalent to 4,755,000,000 LBP. Due to budget constraints, it was possible only to execute the mandatory works after adding the provisional sum of 200,000,000 LBP. On March 25, 2014, LWWSS received from USAID the Consent to subcontract the General Company for Quarries & Contracting s.a.r.l.

The project timeline is now as follows:

Stage	Description	Completed By
Services Appointment	Appointment of consulting engineer, KREDO. Environmental assessment and approvals.	February, 2013
Investigation, Preliminary and Detailed Design, Tender Package	<ul style="list-style-type: none"> - Stage 1: Research, field investigation, assessment and detailed project definition stage. Project strategy defined and agreed. - Stages 2 and 3: Preliminary and detailed design stage, detailed costing and programming and phasing. Final design and scope parameters agreed and coordinated with NLWE; Production of a complete design package for review and approval by LWWSS and NLWE. - Stage 4: Following approval of the design package, production of tender drawings and preparation of a complete bid package for LWWSS to procure the construction works. 	10 months – Completed by January, 2014
Procurement of Works	- Stage 5: Launching of Bid for works. Proposals received, evaluated and infrastructure subcontractor appointed.	2 months – Completed by March, 2014
Construction, Completion and Commissioning	<ul style="list-style-type: none"> - Stage 6: Implementation of works until completion, commissioning and taking over. <p>In parallel:</p> <ul style="list-style-type: none"> - Capacity building to NLWE staff and outreach and community involvement activities, conducted by LWWSS and NLWE, to maximize the effectiveness of the project. 	10 months – Completed by February, 2015

Component 7: Corporate Culture, Customer Service Orientation, and Public Outreach

Work Plan Activities

Item	Activity Description	Program Resource	Outcome by End of Year Five	Target Date
7.3	Develop Tools and Support WEs in Adopting Corporate Communication			
7.3.2	Hosting of NL WE Corporate Website	Netways	Activity underway	February 2015

Below we provide additional context for selected activities presented in the table above.

Activity 7.3 – Designing and Implementing WE Corporate Website

The NLWE launched their corporate website: www.eeln.gov.lb designed by LWWSS on January 22, 2014. This activity enabled the NLWE to establish an online presence, allowing it an extended reach to its customers, helping it build and maintain the trust of the community. A hosting agreement was signed with subcontractor Netways until end of February 2015.

Activity completed. During Q2, LWWSS was following up on the sign off documents.

4. South Lebanon Water Establishment

Component 2: Capacity Building for Managerial, Technical and Operational Efficiency

Work Plan Activities

Item	Activity Description	Program Resource	Outcome by End of Year Five	Target Date
2.3	Build Pump Stations Operators Capacity in Operation and Maintenance			
2.3.1	Pump station operators basic O&M and H&S training	- DAI (MK) - KREDO	Activity conducted	October 2013
2.4	Public Administration and Process Management Training			
2.4.2	Public administration and process management training aiming at increasing staff familiarity with WE systems and processes	LWWSS (MK), ABA (MC)	Activity completed	July 2014

Personnel: BG-Bassem Ghayda; GT-Gulnard Ters; IN – Ihab Nasr; MK-May Koleilat

Below we provide additional context for selected activities presented in the table above.

Activity 2.3 – Capacity Building in Operation and Maintenance of Pump Stations

No further activities are planned in Year Five under this component.

Activity 2.4 - Public Administration and Process Management Training

This activity will enable SLWE's new personnel to increase their administrative and managerial efficiency, and enhance the workflow. Work on this activity will start in Q4.

Component 3: Increase Financial and Commercial Viability of Water Establishments

Work Plan Activities

Item	Activity Description	Program Resource	Outcome by End of Year Five	Target Date
3.1	Upgrade Finance and Accounting Standards and Methods			

3.1.5	Develop procedures and a standard manual for yearly budgeting within the WE, and conduct applied training to key departments.	ABA (AA, MC)	Procedures defined, manual produced, training conducted.	February 2015
3.1.6	Develop procedures and a standard manual for internal audit within the WE, and conduct applied training to key departments.	ABA (AA, MC)	Procedures defined, manual produced, training conducted.	February 2015
3.1.7	Develop module, procedures and provide training on the Cost Tariff Model for Strategic Planning and Budgeting	ABA (AA, MC)	- Module installed, connected to ERP - Procedures defined, training conducted.	February 2015
3.2	Integrate the WEs Financial, Accounting, Customer Service and Business Process Systems			
3.2.1	Conduct business process mapping	ABA (AA, MA)	Activity completed	December, 2013
3.2.2	Implement software platform including Finance and Accounting System and Customer Relationship Management solution	ABA (AA, MA), EDM	Activity to be completed	September 2014
3.2.3	Implement intranet system enabling web-browser based e-training, communication and business process tools	ABA (AA, MA), EDM	Activity to be completed	September 2014
3.2.4	Conduct training, assist in transition phase and provide on year on-site support	ABA (AA, MA), EDM	Activity to be completed	February 2015

Personnel: MA-Mitri Abou Jreich;AA-Ahmad Al Azzam

Below we provide additional context for selected activities presented in the table above.

Activity 3.1 – Upgrade Finance and Accounting Standards and Methods

3.1.5 - Develop procedures and a standard manual for yearly budgeting

This activity aims to enhance and standardize the budget preparation procedure, by introducing a new culture to the WE which will improve the use of budgeting as a planning and control tool, and will provide SLWE's key staff with a step by step guide on how to plan, prepare and implement the budget to improve planning and operations.

In January 2014, mostly preparatory work took place such as field visits and meetings with key staff for the purpose of investigating and defining key best practices in budgeting. Actual implementation however, was not expected to start until the third Quarter of Year Five.

During February, the LWWSS program coordinated with the EU's SISSAF project which included a comprehensive budget activity for the four water establishments. In order not to duplicate any work, a meeting took place on 28 February to discuss the tasks in detail. It was agreed that the LWWSS team will send SISSAF an outline of the budget requirements of the WEs, based on which tasks will be distributed between the two projects. EU's SISSAF project, however, made it explicit that their involvement will be mostly at the strategy/policy level, so LWWSS decided to continue with their budgeting activities as planned.

During March, preparations were under way for a training activity set to take place in May, targeting the four WEs. A draft of the budget manual and the content of the presentations were finalized. The purpose of the workshop is to familiarize the staff of the WEs with the content of the budget manual, obtain their feedback and integrate it into the final version.

3.1.6 - Develop procedures and a standard manual for internal audit

LWWSS will assist the SLWE in developing a thorough Internal Audit Manual that will cover all aspects of audit controls dictated by the by-laws and the legislation applicable to the WEs, in order to improve detective, corrective and preventative controls within the WE. The effort would also allow the SLWE to conduct an operational review of performance on a yearly basis, thereby providing WE management with powerful tools to monitor performance and compliance. As part of this activity, the LWWSS program and SLWE will work to assign staff to lead the process of internal auditing, conduct comprehensive training on the manual's contents and processes.

Work on the Internal Audit manual commenced during the second quarter of Year Five. Memos along with the draft manual and forms were sent to the DGs of the four WEs requesting staff attendance for an upcoming Audit training. After receiving the approval of the four DGs, a training was scheduled for 8 May 2014. One of the key outputs of the training is collecting user feedback. The draft version will then be revised to incorporate staff comments. A final version will be disseminated to participants from the four WEs and the MOEW.

3.1.7 - Develop module, procedures and provide training on the Cost Tariff Analysis Module for Strategic Planning and Budgeting

The LWWSS program will support SLWE in the implementation and proper use of the cost tariff model. It will provide hands-on training to the decision-makers and will create all needed reports for the optimal use of the model for planning and decision-making. Preparation for this activity and meeting with key users will start in the third quarter of Year Five while actual implementation is expected to start in the fourth quarter of Year Five.

Activity 3.2 - Integrating the WE's Financial, Accounting, Customer Service and Business Process Systems: The Enterprise Resource Planning (ERP) Platform

During January, preparatory work was done at the SLWE. On January 29, 2014, a kick-off meeting to launch the new ERP system was organized. The purpose of the meeting was to introduce LWWSS and EDM working team to SLWE key users and heads of departments (Financial, Accounting, Procurement, Inventory, Budget, Billing & Collection, CRM, and Documentation), explain project work plan and expected time frame and challenges.

In February, the work plan was submitted by EDM team. Meetings followed between SLWE staff and EDM technical team to familiarize the staff with the features of the new ERP system. Members of every department went through the module they will be working on and identified a list of data that should be migrated into the new system. LWWSS team is currently in the process of collecting data requested by EDM from the concerned departments. A new Chart of Account is being prepared for the SLWE with a list of cost centers and dimensions.

It is worth noting that this activity is progressing rapidly. In March, EDM received the data they requested to complete the design of all modules based on the comments of the different users. EDM

met with concerned staff for the second time to discuss system roles and procedures for each of the different modules using real data for each department.

Training on the different ERP modules is expected to start in April.

Component 4: Capital Investment Planning and Program/Project Management

There are no component four activities with SLWE in the Year Five work plan.

Component 5: Procurement of Technical Equipment to Strengthen WEs

Work Plan Activities

Item	Activity Description	Program Resource	Deliverable by End of Year Five	Target Date
5.1	Identifying Water Production and Contributing to Water Demand Management			
5.1.1	Supply and install production meters, fittings and protection box/manhole (all non-metered sources in WE)	- CDM Smith (BG, GT) - Modon Group	- Activity completed	September 2013
5.1.2	Establish service agreements, conduct training and complete meter reading	- CDM Smith (BG) - Modon Group	- Activity to be completed	September 2014
5.4	Upgrading Water Analysis Laboratories			
5.4.4	Conduct user training program on the atomic absorption instrument	- LWWSS (MK)	- training to be conducted on atomic absorption instrument	June 2014

Personnel: BG-Bassem Ghayda; GT-Gulnard Ters

Below we provide additional context for selected activities presented in the table above.

Activity 5.1 - Identifying Water Production and Contributing to Water Demand Management

In an attempt to improve water demand management and the continuity of service and to reduce non-revenue water in SLWE, a first meeting was held between the Director General and LWWSS, including water utility consultant, Philip Giantris of Valu-Add, to introduce the objectives of the Water Metering Strategy. First draft of the strategy was prepared by Philip Giantris. The technical evaluation of the strategy will be based on the System Efficiency Mapping prepared by GIZ in 2012 where the water system has been divided into sub-systems. It was agreed with SLWE Head of Projects and Studies, Mr. Ramzi Ramadan, to hold discussions on the Source Metering Strategy after his return from annual leave in mid-March. Also in March, Philip Giantris visited SLWE and met with GIS staff in order to get information on the geographic locations of the meters.

On January 16, 2014, a meeting was held at SLWE with the DG and LWWSS team to insure that source metering data are being properly reported to SLWE Head Office; it was agreed that the data should be advanced to the Projects and Studies Department at SLWE. At the request of the Head of the Projects and Studies Department, LWWSS organized successful one-day training for the designated SLWE staff member who will be responsible for entering the meter readings received from

seven SLWE departments and updating the data base. Source metering official project hand over to SLWE was completed on February 26, 2014. Service and maintenance of the installed meters continues post-installation by the subcontractor MODON Group, including a year-long source meter reading service that started in October 2013 and will continue until September 2014. Meter reading continues to be done in close collaboration with the SLWE metering team. Subcontractor MODON Group will be concurrently sending their readings as per the contract, and LWWSS implementing team will insure proper reporting of MODON Group data to SLWE for comparison until the end of the agreement. Monthly reading reports are being submitted to LWWSS for review and evaluation. To ensure proper usage of data entry forms and reporting procedures, LWWSS team conducted several field visits to the SLWE in March as follows: Marjeyoun on March 4; Nabatieh on March 11 and Tyre on March 27.

Activity 5.4 – Upgrading Water Analysis Laboratories

In February and March, meetings were held with Mrs Amal Chidiac, Head of SLWE Laboratories. The final plan and scope of work for the upcoming advanced training on Atomic Absorption were discussed with the supplier Numelab. NUMELAB, will send an updated offer to the SLWE inclusive of the fees of the trainer who is expected to come to Lebanon, however, the LWWSS will be responsible for covering the cost of the training.

The Atomic Absorption machine is a very advanced technology. When it was first installed, the supplier Numelab provided basic training on how to operate the machine and use the different features in order to test for different contaminants. However it was not within his capacity to offer an in depth training on the testing methodologies and analytical aspects of the different techniques. The objectives of the upcoming training are explained below:

- 1) Offer guidance on how to conduct laboratory tests for heavy metals in drinking water such as: Cr, Co, Na, Cu, Mn, Pb
- 2) Analyze, describe & clarify the various testing techniques.
- 3) Provide the SLWE laboratory team with the procedures required to carry out effective water analysis on heavy metals.
- 4) Supervise the full operation of preparing samples and standards ready to be tested
- 5) Offer guidance on how to Control the Storage stage of the samples.
- 6) Read, analyze and compare both the previous and current results.
- 7) Offer guidance on how to operate the Hydride system and how to conduct testing for the following metals: arsenic and mercury (As & Hg)

Component 6: Small- to Medium-Scale Infrastructure Work

Work Plan Activities

Item Activity Description	Program Resource	Deliverable by End of Year Five Target Date
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6.3	Pump Station Infrastructure Rehabilitation			
6.3.1	SLWE: Test and design pumps, motors and associated works for the rehabilitation of selected stations	- CDM Smith (and their subcontractor DEP)	Activity completed	February 2013
6.3.2	SLWE: Supply and install pumps, motors and associated works for the rehabilitation of selected stations	- CDM Smith - Local subcontractor (Al Rawan)	Infrastructure contract placed; works commenced	March 2015

Below we provide additional context for selected activities presented in the table above.

Activity 6.3 – Upgrading Pumping and Energy Efficiency

During January, and under the supervision of the LWWSS team, subcontractor Al Rawan continued with the civil works in both sites (Ouadi Jilo and Batoulay). By the end of January, a major part of the civil works was completed.

At a meeting on January 7, 2014, between the SLWE, LWWSS and the subcontractor, Al Rawan, the Director General was advised of the status of “re-measurable items” in the BOQ versus actual construction quantities in the field. Although the subcontract is for a “Firm Fixed Price”, it is recognized that during design, not every quantity can be accurately forecasted, nor can every eventuality be anticipated. As per general practice, the subcontractor and the LWWSS supervising engineers keep a running tally, based on shop drawings and actual field measurements during construction, of quantities that require “re-measuring” (up or down) as per General Note No. 11 in the official Bill of Quantities. The DG was assured that the quality and functionality of the work will always be a prime concern, and that construction will proceed with a reconciliation of quantities and costs at an appropriate time during the execution of the works. The result could be either a trade-off of quantities to remain within the FFP contract amount, or a modification to the subcontract, if deemed appropriate.

During February, the work on the rehabilitation of Ouadi Jilo and Batoulay pumps was progressing as per schedule. However, LWWSS Management was reviewing a potential change order request by contractor Al Rawan concerning adjustments to civil, mechanical and electrical works encountered during construction. An initial draft of the detailed list of the new or re-measured works was evaluated by the LWWSS technical team after which they advised the subcontractor to adjust and correct the submittal.

On a different note, on February 28, 2014, a memo was sent to the COR explaining in detail the evolution of the change in scope for the SLWE pumps rehabilitation, resulting in the current work of upgrading and rehabilitating the two major pump stations of Ouadi Jilo and Batoulay.

! In March, several coordination meetings took place with the subcontractor Al Rawan revolving around the topic of the change order, its rationale and impact on the subcontract in terms of additional cost for re-measured quantities. It was agreed that the subcontractor, in coordination with CDM Smith, should prepare a more accurate list of the re-measured quantities already executed, or that will be executed at a further stage of the project. He should include the potential change orders and new activities that must be executed for both pump stations including cost proposals. A copy of this list will be sent to all parties including CDM Smith management to analyze how these new activities would affect the project budget and time.

On March 19, 2014 a meeting was held with LWWSS Chief of Party to discuss the first draft of the potential change orders and re-measured quantities list and allocated costs for the project.

Component 7: Corporate Culture, Customer Service Orientation, and Public Outreach

There are no component seven activities with SLWE in the Year Five work plan.

5. Study Tours and Conferences

There are no activities related to Study Tours and Conferences in Year Five.

C. COLLABORATION WITH DONORS AND GOVERNMENT OF LEBANON OFFICIALS

Donor coordination is an essential part of LWWSS project planning and execution in order to (1) avoid unnecessary duplication; (2) identify specific areas of coordination; and (3) identify areas where LWWSS can collaborate with other donors on specific projects or programs. The list of meetings and special events with the Government of Lebanon (GOL) and other donors below provides a clear picture of this important program activity.

Meeting with Donor, GOL Official or Special Event	Date	Attendees	Brief Synopsis of Meeting
4th Donor Coordination Meeting for Refugee Crisis in BWE	January 14, 2014	Maroun Moussallem, DG; Bill Parente, COP, Rana Maalouf, PM and other donors	Fourth in a series of meetings to inform and coordinate activities focused on solving the growing refugee crisis in the Bekaa.
36th Meeting of Water Sector Coordination Group, at the EU Office	January 16, 2014	All donors; Rana Maalouf, PM; Bassam Jaber	Monthly coordination of all donor players on the water sector.
Meeting with USAID/Lebanon at LWWSS Offices	January 21, 2014	Sana Saliba, COR; Charbel Hanna, PMA Rana Maalouf, PM Amal El Deek, Comms/M&E; Mehzen Khazen, PA Bill Parente, COP	Project Meeting for coordination and to discuss project issues.

VIP Visit by US Ambassador to the Jeita Pump Station, BMLWE.	January 23, 2014	David Hale, US Ambassador, Sana Saliba, Bill Parente, Bassem Ghayda and BMLWE officials	Visit for US Ambassador to observe a subproject of the LWWSS, where the project provided 18 high performance pumps to this critical booster pumping station.
Meeting with USAID Mission Director at USAID/Lebanon	January 29, 2014	Azza El-Abd, MD; Sana Saliba, COR; Other USAID pers. Bruce Spake, VP, DAI/Bethesda; Ejonta Pashaj, Director, DAI; Bill Parente, COP and other LWWSS personnel	Meeting with the Mission Director to update her on DAI progress in mission projects, and for DAI senior manager to discuss current status.
Meeting with Director General of the Bekaa Water Establishment	January 30, 2014	Maroun Moussallem, DG; Sana Saliba, COR; Bill Parente, COP; Rana Maalouf, PM; Roy Yazbeck, BWE	Meeting to discuss management issues in BWE related to the operation of the ERP.
1st Donor Coordination Meeting for Refugee Crisis in SLWE	January 30, 2014	Ahmad Nizam, DG; Mitri Abi Jreiche, Advisor; and other donor representatives	First in what will be a series of meetings to inform and coordinate activities focused on addressing the pending refugee crisis in South Lebanon.
First meeting with Social Impact Midterm Evaluation Team	February 04, 2014	Jeff Fredericks, TL; Joanna Khater, M&E; various LWWSS staff	Meeting held for the Evaluation Team to introduce themselves and the mission.
NLWE 1st Syrian Refugee Coordination Meeting	February 12, 2014	DG, Staff, Donors, Bill Parente, Rana Maalouf	Meeting held to discuss and coordinate the work of humanitarian agencies and development projects in addressing increased needs due to the crisis.
BWE 5th Syrian Refugee Coordination Meeting	February 18, 2014	DG, Staff, Donors, Bill Parente, Amal El Deek	Meeting held to discuss and coordinate the work of humanitarian agencies and development projects in addressing increased needs due to the crisis.
Meeting at USAID	February 19, 2014	Sana Saliba, COR Charbel Hanna, PMA Rana Maalouf, PM Bill Parente, COP	Discussion of project progress, technical, management and administrative issues.
SLWE 2nd Syrian Refugee Coordination Meeting	February 28, 2014	DG, Staff, Donors, Bill Parente, Rana Maalouf, Mitri Abi Jreiche	Meeting held to discuss and coordinate the work of humanitarian agencies and development projects in addressing increased needs due to the crisis.

Meeting with Expand Your Horizon, USAID-funded capacity building program	February 28, 2014	Khadija Zahzah, COP; Mirna Shidrawi, Training Coord.; Rana Maalouf, PM; May Koleilat, Training Mgr.; Bill Parente, COP	Meeting to discuss potential ways in which EYH can expand and build on the capacity building and awareness created under the LWWSS program.
Meeting with Social Impact Midterm Evaluation Team	February 28, 2014	Jeff Fredericks, TL; Joanna Khater, M&E; various LWWSS staff	Meeting held for the Evaluation Team to ask some final questions and clarify some outstanding issues.
Meeting with USAID Project Office	March 6, 2014	Sana Saliba, COR Charbel Hanna, PA Rana Maalouf, PM Bill Parente, COP	Coordination meeting to discuss project issues, technical updates, and status of requests.
BWE Syrian Refugee Coordination Meeting	March 18, 2014	M. Moussallem, DG Various donor reps LWWSS Reps	Meeting to discuss various inputs from NGOs and development teams regarding programs affecting refugee crisis.
Water Sector Coordination Meeting at MoEW	March 20, 2014	MoEW officials All Donor agencies LWWSS reps	Meeting with presentations on various donor programs, plus drought management discussion.
Meeting USAID with BLUE GOLD	March 21, 2014	Blue Gold Reps USAID reps Project reps including LWWSS	Meeting to inform USAID about Blue Gold Initiative, and to inform Blue Gold of USAID Water Programs.
BWE Workshop on W & WWT Master Plan	March 26, 2014	DG, BWE, MoEW rep CDR Reps USAID Reps LWWSS Reps KREDO Reps	Meeting to present and discuss current status of BWE Water & Wastewater Master Plan work.
Meeting with World Vision	March 28, 2014	John Stiefel, WASH rep, World Vision Ron Clemmer, Water Engineer, WV Rana Maalouf, Bill Parente	Meeting to discuss World Visions activities in the Bekaa Valley and to brief them on the nature of the BWE W & WWT Master Plan work.

D. CONTRACT DELIVERABLES

- The January monthly report and the first quarter, Year Five report were submitted to the COR in February 2014.
- The February monthly report was submitted to the COR in March 2014.

E. CHALLENGES, PROBLEMS, ISSUES

Lack of qualified staff

The lack of qualified staff remains a challenge within most water establishments. The LWWSS program is focusing on assisting the WEs with implementing training and capacity building programs, and advising senior management.

Source Metering Activity

Some challenges were encountered during the follow up on the source metering activity as follows: Meter reading was being reported lately only by three departments out of seven: Jezzin, Nabatieh and Zahrani. This prompted LWWSS to carry out field visits to find out the reason behind this. The justification provided by some departments was that they did not have access to the keys to the meters which were located at the office of the DG. The issue was resolved when the keys were distributed to all four departments pursuant to the LWWSS follow up visit. In addition, printed source metering login templates were handed to all departments by the LWWSS team during their site visits or sent by email from SLWE Head Office. LWWSS will continue to monitor the activity closely to insure proper implementation and continued reading of the source meters.

Construction of Zahle Water Networks project

Around the end of February 2014, USAID reported to LWWSS Chief of Party an alleged malfunctioning detected in the Mar Elias water line, a major distribution trunk main of 200 mm diameter and 2.1 km length. The pipeline was failing to transmit water properly to the destination end point. LWWSS supervising engineers have already been following up on the issue with the subcontractor Srouji to resolve the situation and work on this was underway at the time of writing this report. Memos to this effect were sent to USAID COR.

The solution to the problem consisted of reducing water flow in such a way as to keep the velocity below the threshold that caused a negative pressure point. After several trials and errors, installing a water meter and a globe valve at the end of the line increased the flow of water and was deemed satisfactory. In fact, the globe valve throttled the velocity of the flow below the threshold and at the same time the water meter witnessed the crossing of a water quantity equal to more than double its design value in year 2040. Thus the problem was considered as settled.

F. STTA DURING QUARTER

During this quarter the following personnel worked on LWWSS as STTAs:

Person and Subcontractor	Period of STTA	STTA Activity
John Crippen, PE, Senior Project Manager, CDM Smith	January 5 – 10, 2014	<ul style="list-style-type: none"> • Technical support and oversight; NLWE pump replacement and well investigation; SLWE Source Metering in field. Meetings with WEs.
Ejonta Pashaj, Director, MENA Region, DAI;	January 26 – February 1, 2014	<ul style="list-style-type: none"> • Management oversight and quality assurance visit. Meet with USAID.
Bruce Spake, VP/Managing Director, MENA Region, DAI	January 26 – 31, February 9 – 15, 2014	<ul style="list-style-type: none"> • To review electrical shop drawings of subcontractor, Al Rawan, and review modifications caused by changing site conditions.
David Ogden, PE, Unit Quality Manager, CDM Smith	January 26 – February 1, 2014;	<ul style="list-style-type: none"> • Review progress on BWE Master Plan work; Consult on System-Wide Metering Strategy for SLWE; meet with DGs of BWE and SLWE.; hold strategy meeting w/LWWSS tech staff
Taha Mohammed, PE, Senior Electrical Engineer, CDM Smith	March 17 – 20, 2014	<ul style="list-style-type: none"> • Quality Assurance review of CDM staff and product, per subcontract requirements.

G.MAJOR ACTIVITIES PLANNED FOR NEXT QUARTER

Bekaa Water Establishment

- Preparation of Public Administration Training (Component 2)
- Continuation of ERP support to BWE. There is a possibility to continue with the support and maintenance activities for another year. (Component 3)
- Investigate and design key best practices in budgeting .Draft Budget Manual and establish linkages with ERP (Component 3).
- Review BWE internal audit requirements and identify key best practices (Component 3)
- Water Supply and Sewerage Master Plan: Meeting with KREDO and Philip Giantris to assess the progress of KREDO (Component 4)

Beirut-Mount Lebanon Water Establishment

- Review WE audit requirement and define key best practices. (Component 3)

North Lebanon Water Establishment

- Training on Network maintenance and repair.(Component 2)
- Follow up on the implementation of the Internal Audit and Budget Manuals (Component 3)
- Follow up on the pump station rehabilitation (Component 5)
- Follow up on rehabilitation of the water supply network in Beit Mellat (Component 6)

South Lebanon Water Establishment

- Follow up on the implementation of the Internal Audit and Budget Manuals (Component 3)
- ERP training and beginning of the implementation phase (Component 3)
- SLWE Lab water analysis testing continued and implementation of the training activity (Component 5)
- Source meter reading support by subcontractor Modon (Component 5)
- Continuation of pump station rehabilitation work (Component 6)

H. ENVIRONMENTAL COMPLIANCE REPORTING

The LWWSS project Environmental Mitigation and Monitoring Plan (EMMP) details the project environmental compliance requirements, as well as including a list of reports for submission to USAID. The primary environmental compliance reporting tool is the Quarterly Report.

The LWWSS EMMP notes that an initial screening form must be completed for each project activity. If the activity is determined to be in category 2, 3, or 4, then an Environmental Review and Assessment Checklist (ERAC) and an Environmental Mitigation and Monitoring Plan (EMMP) must be completed and approved by the LWWSS COR.

Initial screening forms were completed for each activity (available in the files of the LWWSS Environmental Specialist), and it was determined that the activities under Components 5 and 6 all require ERACs and EMMPs. The first table below, entitled “LWWSS Environmental Compliance Overview,” summarizes the environmental compliance actions for each LWWSS activity. The second table below, entitled “LWWSS Environmental Mitigation and Monitoring Actions,” details environmental mitigation and monitoring actions for each activity that requires an ERAC and EMMP.

Environmental Compliance Table 1:

LWWSS Environmental Compliance Overview				
Activities (Completed, On-going and Planned)		Environmental Compliance Actions		
#	Activity Description	Has an initial screening form been completed?	As per the screening form, is an ERAC and EMMP necessary?	Is there an approved ERAC and EMMP (if applicable)?
Component 2				
2.1	Source metering training in SLWE	Yes, see activity 5.1	See activity 5.1	See activity 5.1
2.2	Water quality management in the Bekaa implemented by AUB	Yes	No	N/A
2.3	O&M trainings for pump station operators in BWE, NLWE, and SLWE	Yes	No	N/A
2.4	IT literacy training for BMLWE and BWE	Yes, see activity 3.1	No	N/A
2.5	Network maintenance and repair training for BWE	Yes	No	N/A

Component 3				
3.1	Upgrade finance and accounting standards and methods	Yes	No	N/A
3.2	ERP platform and associated activities	Yes	No	N/A
3.3	Pilot Stakeholder exercise to sustain O&M of USAID WWTP	Yes	No	N/A
Component 4				
4.1	Business planning for BMLWE and SLWE	Yes	No	N/A
4.2	Pump station inventory in South Lebanon	Yes	No	N/A
4.3	Water utility management: conferences, workshops, specialist trainings and study tours	Yes	No	N/A
4.4	Master planning for the Bekaa	Yes	No	N/A
Component 5				
5.1	Source metering installation and training	Yes	Yes	Yes
5.2.1-5.2.2	Jeita pump station rehabilitation	Yes	Yes	Yes
5.2.3-5.2.4	Pump station rehabilitation in North Lebanon	Yes	Yes	Yes
5.3	Back-up power generators for NLWE pump stations	Yes	Yes	Yes
5.4	Upgrading water analysis laboratories in SLWE and BWE (Y3) and rehabilitation of laboratory and equipment purchases for BWE (Y4)	Yes	Yes	Yes for Y3 activities and Y4 activities
5.5	Customer Service Center in BWE	Yes	Yes	Yes
5.6	Upgrade IT equipment in BWE and SLWE	Yes	Yes	Yes for BWE and SLWE
5.7	GNSS procurement and training for SLWE	Yes	Yes	Yes
Component 6				
6.1	Network rehabilitation in Zahle (BWE)	Yes	Yes	Yes
6.2	Expanding service provision in Beit Mellat (NLWE)	Yes	Yes	Yes
6.3	Pump station rehabilitation in South Lebanon	Yes	Yes	Yes
6.4	Chlorination systems installation and training	Yes	Yes	Yes

Component 7				
7.1	Building customer service management structure at BWE	Yes	No	N/A
7.2.1	Customer Service training at BWE and BMLWE	Yes	No	N/A
7.2.2	On-the-job training in communication planning	Yes	No	N/A
7.3.1-7.3.2	Design and implement WE brand identity guidelines and design and implement corporate website	Yes	No	N/A
7.3.3	Design and adopt customer service application forms	Yes	No	N/A
7.4	Customer satisfaction survey	Yes	No	N/A
7.5	Youth water conservation programs	Yes	No	N/A
7.6.1	Media campaign in the Bekaa	Yes	No	N/A
7.6.2	World Water Day 2012 youth outreach	Yes	No	N/A

ERAC = Environmental Review and Assessment Checklist

EMMP = Environmental Mitigation and Monitoring Plan

* = These EMMPs were originally planned to be completed during Year Four, but the activities were not finalized during Year Four. Therefore, the EMMPs will be finalized once the design, technical specs, and other requirements are finalized.

Environmental Compliance Table 2:

LWWSS Environmental Mitigation & Monitoring Actions		
Activity # (as per Y5 Workplan)	Activity Description	Environmental Mitigation and Monitoring Update (as of January 01, 2014)
5.1	Source metering installation and training	The ERAC and EMMP were approved by LWWSS' COR at the end of the third quarter of Year Three.
		An initial EMMP was included in the subcontract with Modon (signed in April 2012), the vendor that is supplying and installing source meters. A more detailed EMMP, as well as an environmental mitigation inspection checklist, was given to Modon personnel at the end of the second quarter of Year Three and discussed in detail with them.
		Preparation works for the installation of source meters began at the end of the fourth quarter of Year Three, and installation of the source meters started at the end of the third quarter of Year Four. An LWWSS engineer was on site four days/week to supervise Modon's work.
		The installation of the source meters was completed during the fourth quarter of Year Four. As per the EMMP, Modon's site supervisor was responsible for ensuring that all mitigation measures are followed and completed an environmental mitigation inspection checklist at each site. Checklists were received and reviewed by the LWWSS' ES. The checklists are included in the EMMP monitoring files.
		In addition, the LWWSS' Environmental Specialist (ES) went on site visits with the LWWSS engineer to ensure that mitigation measures are being followed. Photos are included in the EMMP monitoring files.
5.2.1-5.2.2	Jeita pump station rehabilitation	The rehabilitation was completed in the second quarter of Year Four. The BMLWE engineers have completed the environmental mitigation inspection checklists and delivered them to the LWWSS' ES during the second quarter of Year Four. Also, the commitment letter from BMLWE's DG concerning the environmental mitigation process was received. The letter and checklists are included in the EMMP monitoring files.
		During the fourth quarter of Year Four, O&M training was implemented for the pump station operators on the use of the equipment, as well as health and safety measures. In addition, an O&M manual was given to the WE.

5.2.3-5.2.4	Pump station rehabilitation in North Lebanon	<p>This activity has been delayed and began during the second quarter of Year Four with well assessment tests. The well assessment tests were completed by the end of the fourth quarter of Year Four.</p> <p>The LWWSS' ES completed the ERAC and EMMP during the second quarter of Year Five and submitted them to COR review. Approval was received in the Q2.</p>
5.3	Back-up power generators for NLWE pump stations	<p>The ERAC and EMMP were approved by LWWSS' COR during the fourth quarter of Year Three.</p> <p>The EMMP, as well as an environmental mitigation inspection checklist, was included in the subcontract with Edan Group International (signed in September 2012), the vendor that is supplying and installing the back-up generators.</p> <p>There have been two amendments to the EMMP during the second quarter of Year Four, both dealing with mitigation of the noxious exhaust from the generators. The second amendment was approved by LWWSS' COR during the second quarter of Year Four.</p> <p>The installation of the generators began in the third quarter of Year Four, and Edan Group International's site manager was ensuring that the mitigation measures were being followed at each site and completing the checklist. LWWSS engineers were also on site to monitor Edan's work. In addition, the LWWSS ES collected and reviewed the checklists, and conducted site visits to ensure that mitigation measures were being followed. The checklists are included in the EMMP monitoring files.</p> <p>During the first quarter of Year Five, the following problem was identified: Due to the small geographic area, the power generator provided by the LWWSS Program to NLWE in Beshmezzine was placed only 7 meters away from the nearest inhabited house. This would normally be in violation of environmental principles which would require a minimum of 15 meters mandatory distance between exhaust emissions and an inhabited area. One of the proposed solutions to this problem is planting trees to mitigate the negative environmental impact.</p> <p>A memo was sent to NLWE DG requesting a commitment letter agreeing to dispose of the equipment in an environmentally responsible manner at the end of the useful life of the equipment. LWWSS has received a positive response. Both the memo and the response can be found in the EMMP monitoring files.</p>
		-The ERAC and EMMP for the Year Three activities in SLWE and BWE were approved

5.4	Upgrading water analysis laboratories in SLWE and BWE (Y3) and rehabilitation and equipment procurement in BWE (Y4)	<p>by LWWSS' COR during the second quarter of Year Three.</p> <p>-The ERAC and EMMP for the Year Four activity with BWE were completed in the second quarter of Year Four.</p> <p>LWWSS' capacity building specialist and engineers conducted frequent site visits to the laboratories throughout Year Three to ensure that all mitigation measures were followed and reported back to the ES. In addition, they took photos for documentation. The ES also conducted a couple of site visits to both SLWE and BWE and found that all mitigation measures were being followed.</p> <p>As per the EMMP, both the SLWE DG and the BWE DG signed commitment letters agreeing to follow detailed safety procedures during use of the equipment and to dispose of laboratory equipment in an environmentally responsible manner at the end-of-useful life of the equipment.</p> <p>The ERAC and EMMP for the Year Four activity with BWE was completed in the second quarter of Year Four and sent to the COR. The EMMP was revised in the third quarter after having identified with the BWE Head of Laboratories and AUB an adequate microbiological waste disposal, and after having designated a solid waste landfill. The ERAC and EMMP were sent to the COR in the third quarter for approval.</p> <p>During the fourth quarter, the ERAC and EMMP were approved by COR. However, another modification included the waterproofing task due to the extension of the scope of the lab rehabilitation (based on the DG request). The final ERAC and EMMP were approved at the end of the fourth quarter of Year Four. In addition, the DG signed a commitment letter to abide by safety measures and to dispose of laboratory equipment in an environmentally responsible manner, including disposal of microbiological waste after incineration. The commitment letter can be found in the EMMP monitoring files.</p> <p>The LWWSS ES coordinated with Sanabel regarding the mitigation measures, and conducted site visits to the lab during rehabilitation and waterproofing works to ensure that mitigation measures are being followed. Photos can be found in the EMMP monitoring files.</p> <p>A training was conducted on water quality monitoring during the second quarter of Year Four, and another one will be conducted in the second quarter of Year Five on the use of the equipment, and health and safety measures.</p>
5.5	Customer Service Center in BWE	<p>The ERAC and EMMP were approved by LWWSS' COR during the third quarter of Year Three.</p> <p>Rehabilitation - The contractor ensured that all mitigation measures were followed, and completed an environmental mitigation inspection checklist and turned this into the ES. LWWSS' Customer Service Specialist conducted frequent site visits during the</p>

		rehabilitation and reported back to the ES, as well as taking photos for documentation. All photos are included in the EMMP monitoring files.
		Operation - As per the EMMP, the BWE DG signed a commitment letter to follow the mitigation measures during operation. The ES also conducted a couple site visits to the customer service center during operation to ensure that these measures are being followed and took photos for documentation. All photos are included in the EMMP monitoring files.
5.6	Upgrade IT equipment in BWE	The ERAC and EMMP were approved by LWWSS' COR during the second quarter of Year Three.
		As per the EMMP, the BWE DG signed a commitment letter agreeing to dispose of IT equipment in an environmentally responsible manner at the end-of-useful life of the equipment.
	Upgrade IT equipment in SLWE	The ERAC and EMMP for SLWE were approved by LWWSS' COR during the second quarter of Year Four. As per the EMMP, the SLWE DG signed a commitment letter agreeing to dispose of IT equipment in an environmentally responsible manner at the end-of-useful life of the equipment. The letter is included in the EMMP monitoring files.
5.7	GNSS procurement and training for SLWE	The ERAC and EMMP were approved by LWWSS' COR during the second quarter of Year Three.
		As per the EMMP, the SLWE DG signed a commitment letter agreeing to dispose of the GNSS equipment in an environmentally responsible manner at the end-of-useful life of the equipment.
6.1	Network rehabilitation in Zahle (BWE)	The ERAC and EMMP were submitted to the LWWSS COR at the end of the fourth quarter of Year Three and were approved during the first quarter of Year Four.
		Environmental compliance language was included in the subcontract with WET, the contractor that is designing and supervising the network rehabilitation.
		The EMMP was developed after the preliminary design was submitted by WET and WET was given the EMMP and the environmental mitigation inspection checklist developed by LWWSS' ES.
		The EMMP was included in the subcontract with the construction subcontractor, who will be responsible for following mitigation measures during the rehabilitation. WET will be responsible for monitoring the construction subcontractor and will fill out the checklists and turn them in with monthly reports.

		The rehabilitation began on May 27, 2103, in the third quarter of Year Four. The LWWSS ES coordinated with WET to receive the checklists. The LWWSS' ES conducted site visits during the fourth quarter to ensure that all mitigation measures were being followed.
		In Q1 the contractor filled out the checklists and turned them in with the monthly reports. Constant monitoring and follow up on Environmental mitigation measures was being done by the subcontractor in coordination with the site supervisor and the ES.
		An environmental site visit was carried out in Q2 to ensure that all mitigation measures were being followed. Photos were taken. All documents are available in the EMMP monitoring files. Work was finalized. No more activities are expected to take place.
6.2	Expanding service provision in Beit Mellat (NLWE)	This activity began during Year Four. LWWSS' ES completed the ERAC and EMMP during the first quarter of Year Five, after the subcontractor has completed the design. The ERAC and EMMP were submitted to the COR for review and approval was received in Q2. The EMMP and checklist were shared with both the site supervisor and subcontractor. The LWWSS ES will go on site visits once rehabilitation begins.
6.3	Pump station rehabilitation in South Lebanon	<p>This activity began during Year Four. The LWWSS ES completed the ERAC and EMMP during the second quarter of Year Four when the final design was completed by CDM Smith and their subcontractor Design Engineering Partners (DEP). As per the EMMP, the SLWE DG signed a commitment letter agreeing to dispose of excavation waste and decommissioned equipment at the Ras Al Ain landfill.</p> <p>The ERAC and EMMP were submitted to LWWSS COR during the second quarter of Year Four and approved in the fourth quarter of Year Four.</p> <p>During the fourth quarter, the EMMP was shared with subcontractor, and the checklist was shared the LWWSS site supervisor. The LWWSS ES will go on site visits once rehabilitation begins.</p> <p>In Q1, Inspection checklists were filled by the site supervisor .Environmental site visits were planned for Q2.</p> <p>Follow up and monitoring continued through Q2 to ensure Environmental mitigation measures were being followed by the subcontractor in coordination with the site supervisor and the ES. Checklists were filled and submitted also an environmental site visit was carried out. Photos were taken. All documents are available in the EMMP monitoring files.</p>

6.4	Chlorination systems installation and training	The ERAC and EMMP were approved by LWWSS' COR during the first quarter of Year Three.
		LWWSS' capacity building specialist and engineers conducted frequent site visits to chlorination sites throughout Year Three to ensure that all mitigation measures were followed and reported back to the ES, as well as taking photos for documentation. Photos are included in the EMMP monitoring files.

ERAC = Environmental Review and Assessment Checklist

EMMP = Environmental Mitigation and Monitoring Plan

ES = LWWSS Environmental Specialist

ANNEX 1: YEAR-FIVE PMP SUMMARY PERFORMANCE DATA TABLE

ANNEX 1: YEAR-FIVE PRELIMINARY PMP REPORT FOR THE SECOND QUARTER OF THE WORK PLAN YEAR

Progress towards achieving LWWSS program outcomes is measured in part through tracking of LWWSS's 8 performance indicators. The indicator targets are reported in the Performance Management Plan (PMP) at the beginning of each program year, while the actuals are reported twice throughout the year – interim figures are reported in the second quarter report and final figures are reported in the fourth quarter report. The cumulative figures – adding together the actuals from years one, two, three, and four – for each indicator are also included below in the right-hand column.

Indicator/Unit of Measure	Disaggregation	BL Year Value	2010 Target	2010 Actual	2011 Target	2011 Actual	2012 Target	2012 Actual	2013 Target	2013 Actual	2014 Target	2014 Actual	2015 Target	2015 Actual	Cumulative
1. Number of people receiving improved service quality from existing improved drinking water sources (F) ¹	Sex ²	0	Male 686,980 Female 715,275 Total-1,402,000	Male 722,864 Female 752,369 Total-1,475,233	Male 379,897 Female 395,403 Total-775,300	Male 409,808 Female 426,535 Total-836,343	Male 300,673 Female 312,946 Total-613,619	Male 310,427 Female 323,098 Total-633,525	Male 22,846 Female 23,779 Total-46,625	Male 14,142.31 Female 14,719.54 Total-28,861.85	Male 13,996.85 Female 14,568.15 Total-28,565		Male 10,134 Female 10,547 Total-20,681		Male 1,457,241 Female 1,516,722 Total – 2,973,963,
2. Percent of water revenues collected by targeted water entities	WE	59.1 %	60%	62.5%	63%	63%	64%	63.84 % ³	64%	64.08%	65%		N/A	N/A	63.35%

¹ Indicators 1, 4, and 6: People benefiting from multiple activities are only counted once. Cumulative values are also shown in the further column to the right.

² The CIA Factbook lists the ratio of male to female population in Lebanon as 49% male and 51% female.

³ This figure reports collection rates of the 4 WEs.

Indicator/Unit of Measure	Disaggregation	BL Year Value	2010 Target	2010 Actual	2011 Target	2011 Actual	2012 Target	2012 Actual	2013 Target	2013 Actual	2014 Target	2014 Actual	2015 Target	2015 Actual	Cumulative
3. Number of training activities provided to staff from water entities as a result of USG assistance	WE	0	3	BML-1 SL-1 NL-1 B-0 Cross-WE-0 Total-3	6	BML-2 SL-1 NL-1 B-1 Cross-WE-1 Total-6	22	BML-8 SL-1 NL-1 B-11 Cross-WE-2 Total-23	12	BML- 5 SL-3 N -2 B-3 Cross-WE-2 Total-15	19	BML- SL- 2 NL- 1 B- 2 Cross-WE- Total-5	2	BML- SL- NL- B- Cross-WE- Total-	BML-16 SL- 8 NL-6 B- 17 Cross-WE-5 Total 52
4. Number Staff from Water Entities Trained as a Result of UGG Assistance	Sex	0	M-25 F-10 Total – 35	M-2 F-4 Total - 6	M-51 F-24 Total – 75	M-91 F-15 Total – 106	M-66 F-34 Total – 100	M-84 F-48 Total – 132	M- 38 F- 21 Total – 59	M- 160 F- 31 Total – 191 ⁴	M- 105 F- 30 Total – 135	M-53 F-1 Total-54	M- 6 F- 0 Total – 6		M-390 F- 99 Total - 489
5. Number of management systems and plans used at water management entities as a result of USG assistance	WE	0	3	BML-3 SL-0 NL-0 B-0 Total-3	2	BML-1 SL-0 NL-0 B-2 Total-3	12	BML-5 SL-1 NL-1 B-7 Total-14	12	BML-2 SL-0 NL- B-4 Total-6	10	BML- SL- NL-1 B- Total-1	N/A	N/A	BML-11 SL-1 NL-2 B-13 Total-27

⁴ This number represents the number of “new” participants as per the PIRS. The total number of training participants for Year Four is: 293 (M=235; F=58).

Indicator/Unit of Measure	Disaggregation	BL Year Value	2010 Target	2010 Actual	2011 Target	2011 Actual	2012 Target	2012 Actual	2013 Target	2013 Actual	2014 Target	2014 Actual	2015 Target	2015 Actual	Cumulative
6. Number of water users receiving guidance on efficient water use	Gender	0	M-1,300 F-700 Total 2,000	0	M-1,300 F-700 Total 2,000	M-81,570 F-84,933 Total-166,503	M-70,453 F-73,328 Total 143,781	M-70,455 F-73,271 Total 143,726	M-1,250 F-1,250 Total-2,500	M-1,210 F-1,210 Total-2,420	N/A	N/A	N/A		M-152,025 F-158,204 Total-310,229
7. Number of functioning water facilities constructed or rehabilitated with USG assistance	Water	W-0	W-0	W-0	W-1	W-1	W-10	W-18	W-180	W-236	W-10	W-7	W-9		W - 262
8. Number of USG Assisted Water Reports or Studies Proposing Legal, Policy, and Institutional Measures or Procedures	N/A	0	1	2	1	2	1	2	1	1	1	-	N/A		7